**ABECEDÁRIO PIC**

**Diagrama esquemático**



Código Fonte :

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; A B C D Á R I O

; PROGRAMA PARA GERAR O ABECEDÁRIO EM UM DISPLAY

; ALFANUMÉRICO DE 16 SEGMENTOS TIPO C-808SR, USANDO PIC16F628A

;

; ARQUIVOS DE DEFINICOES

#INCLUDE <P16F628A.INC>

 \_\_CONFIG \_BOREN\_ON & \_CP\_OFF & \_PWRTE\_ON & \_WDT\_OFF & \_LVP\_OFF & \_MCLRE\_ON & \_INTOSC\_OSC\_NOCLKOUT

; PAGINACAO DE MEMÓRIA

#DEFINE BANK0 BCF STATUS,RP0

#DEFINE BANK1 BSF STATUS,RP0

; VARIAVEIS

 CBLOCK 0x20

 MASTER

 SLAVE

 SLAVE2

 SLAVE3

 ENDC

; VETOR DE RESET

 ORG 0x00

 GOTO INICIO

; INICIO DA INTERRUPCAO

 ORG 0x04

 RETFIE

; INICIO DO PROGRAMA

INICIO

 CLRF PORTA

 CLRF PORTB

 BANK1

 MOVLW B'00000000'

 MOVWF TRISA

 MOVWF TRISB

 MOVWF INTCON

 MOVLW B'10000000'

 MOVWF OPTION\_REG

 BANK0

 MOVLW B'00000111'

 MOVWF CMCON

; TEMPORIZADORES

 GOTO MAIN

DELAY

 MOVLW .8000

 MOVWF MASTER

DL1

 MOVLW .5000

 MOVWF SLAVE

 NOP

 MOVWF SLAVE2

 NOP

 MOVWF SLAVE3

DL2

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE,F

 GOTO DL2

DL3

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE2,F

 GOTO DL3

DL4

 NOP

 NOP

 NOP

 DECFSZ SLAVE3,F

 GOTO DL4

 DECFSZ MASTER,F

 GOTO DL1

; DUPLICACAO DO DELAY

 MOVLW .8000

 MOVWF MASTER

DL11

 MOVLW .5000

 MOVWF SLAVE

 NOP

 MOVWF SLAVE2

 NOP

 MOVWF SLAVE3

DL21

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE,F

 GOTO DL21

DL31

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE2,F

 GOTO DL31

DL41

 NOP

 NOP

 NOP

 DECFSZ SLAVE3,F

 GOTO DL41

 DECFSZ MASTER,F

 GOTO DL11

; SEGUNDA DUPLICACAO DO DELAY

 MOVLW .8000

 MOVWF MASTER

DL12

 MOVLW .5000

 MOVWF SLAVE

 NOP

 MOVWF SLAVE2

 NOP

 MOVWF SLAVE3

DL22

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE,F

 GOTO DL22

DL32

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE2,F

 GOTO DL32

DL42

 NOP

 NOP

 NOP

 DECFSZ SLAVE3,F

 GOTO DL42

 DECFSZ MASTER,F

 GOTO DL12

 RETURN

DELAY\_APAGAMENTO

 MOVLW .200

 MOVWF MASTER

DL1\_APAGA

 MOVLW .200

 MOVWF SLAVE

DL2\_APAGA

 NOP

 NOP

 DECFSZ SLAVE,F

 GOTO DL2\_APAGA

 DECFSZ MASTER,F

 GOTO DL1\_APAGA

 MOVLW B'00000000'

 MOVWF PORTA

 NOP

 MOVLW B'00000000'

 MOVWF PORTB

 RETURN

; ESTE DELAY É PARA INICIO E FIM DO ABCEADRIO

DELAY\_FINAL

 MOVLW .8000

 MOVWF MASTER

DLFA

 MOVLW .5000

 MOVWF SLAVE

 NOP

 MOVWF SLAVE2

 NOP

 MOVWF SLAVE3

DLFB

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE,F

 GOTO DLFB

DLFC

 NOP

 NOP

 NOP

 NOP

 DECFSZ SLAVE2,F

 GOTO DLFC

 RETURN

; ROTINA PRINCIPAL

MAIN

; INICIO

 MOVLW B'10011000'

 MOVWF PORTA

 MOVLW B'11110001'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 CALL DELAY\_APAGAMENTO

 MOVLW B'10011000'

 MOVWF PORTA

 MOVLW B'11110001'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 CALL DELAY\_APAGAMENTO

 MOVLW B'10011000'

 MOVWF PORTA

 MOVLW B'11110001'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 CALL DELAY\_APAGAMENTO

 MOVLW B'10011000'

 MOVWF PORTA

 MOVLW B'11110001'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 CALL DELAY\_APAGAMENTO

 MOVLW B'10011000'

 MOVWF PORTA

 MOVLW B'11110001'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 CALL DELAY\_APAGAMENTO

; A

 MOVLW B'01010111'

 MOVWF PORTA

 MOVLW B'00000011'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; B

 MOVLW B'00010110'

 MOVWF PORTA

 MOVLW B'11001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; GOTO MAIN

; C

 MOVLW B'01000011'

 MOVWF PORTA

 MOVLW B'00001100'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; GOTO MAIN

; D

 MOVLW B'00000110'

 MOVWF PORTA

 MOVLW B'11001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; E

 MOVLW B'01010011'

 MOVWF PORTA

 MOVLW B'00001101'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; F

 MOVLW B'01000011'

 MOVWF PORTA

 MOVLW B'00000001'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; G

 MOVLW B'01010011'

 MOVWF PORTA

 MOVLW B'00001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; H

 MOVLW B'01010101'

 MOVWF PORTA

 MOVLW B'00000011'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; I

 MOVLW B'00000010'

 MOVWF PORTA

 MOVLW B'11001100'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; J

 MOVLW B'01000100'

 MOVWF PORTA

 MOVLW B'00001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; K

 MOVLW B'01001001'

 MOVWF PORTA

 MOVLW B'00010001'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; L

 MOVLW B'01000001'

 MOVWF PORTA

 MOVLW B'00001100'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; M

 MOVLW B'11001101'

 MOVWF PORTA

 MOVLW B'00000010'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; N

 MOVLW B'11000101'

 MOVWF PORTA

 MOVLW B'00010010'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; O

 MOVLW B'01000111'

 MOVWF PORTA

 MOVLW B'00001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; P

 MOVLW B'01010111'

 MOVWF PORTA

 MOVLW B'00000001'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; Q

 MOVLW B'01000111'

 MOVWF PORTA

 MOVLW B'00011110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; R

 MOVLW B'01010111'

 MOVWF PORTA

 MOVLW B'00010001'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; S

 MOVLW B'00010011'

 MOVWF PORTA

 MOVLW B'00001111'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; T

 MOVLW B'00000010'

 MOVWF PORTA

 MOVLW B'11000000'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; U

 MOVLW B'01000101'

 MOVWF PORTA

 MOVLW B'00001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; V

 MOVLW B'01001001'

 MOVWF PORTA

 MOVLW B'00100000'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; W

 MOVLW B'01000101'

 MOVWF PORTA

 MOVLW B'00110010'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; X

 MOVLW B'10001000'

 MOVWF PORTA

 MOVLW B'00110000'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; Y

 MOVLW B'10001000'

 MOVWF PORTA

 MOVLW B'01000000'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; Z

 MOVLW B'00001010'

 MOVWF PORTA

 MOVLW B'00101100'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 1

 MOVLW B'00001100'

 MOVWF PORTA

 MOVLW B'00000010'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 2

 MOVLW B'01010110'

 MOVWF PORTA

 MOVLW B'00001101'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 3

 MOVLW B'00010110'

 MOVWF PORTA

 MOVLW B'00001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 4

 MOVLW B'00010101'

 MOVWF PORTA

 MOVLW B'00000011'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 5

 MOVLW B'00010011'

 MOVWF PORTA

 MOVLW B'00001111'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 6

 MOVLW B'01010001'

 MOVWF PORTA

 MOVLW B'00001111'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 7

 MOVLW B'00000110'

 MOVWF PORTA

 MOVLW B'00000010'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 8

 MOVLW B'01010111'

 MOVWF PORTA

 MOVLW B'00001111'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 9

 MOVLW B'00010111'

 MOVWF PORTA

 MOVLW B'00000011'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; 0

 MOVLW B'01000111'

 MOVWF PORTA

 MOVLW B'00001110'

 MOVWF PORTB

 CALL DELAY

 CALL DELAY\_APAGAMENTO

; ROTINA FINAL

 MOVLW B'00000001'

 MOVWF PORTA

 MOVLW B'00000000'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 MOVLW B'00000010'

 MOVWF PORTA

 MOVLW B'00000000'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 MOVLW B'00000100'

 MOVWF PORTA

 MOVLW B'00000000'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 MOVLW B'00000000'

 MOVWF PORTA

 MOVLW B'00000010'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 MOVLW B'00000000'

 MOVWF PORTA

 MOVLW B'00001100'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 MOVLW B'01000000'

 MOVWF PORTA

 MOVLW B'00000000'

 MOVWF PORTB

 CALL DELAY\_FINAL

 CALL DELAY\_APAGAMENTO

 GOTO MAIN

; FIM DO PROGRAMA

 END